Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Record Book No. 26
Notebook, N-18-03-11

This notebook was used by William W. Dinwiddie during March-April 1918 for notes on efforts to improve the surface quality of Edison disc records. The entries pertain primarily to a sequence of experiments numbered from 1897E through 1975E. Most involve experimental lots of record blanks constructed by different methods, prepared with various varnish compounds and methods of varnishing, or printed according to different schedules of heat and pressure application. The notes generally take the form of instructions describing the experimental records wanted, accompanied by evaluations of the test records produced. One entry mentions work done during the "strike of blanks makers" on March 26-27. Several pages of additional notes by Archie D. Hoffman, consisting of caliper measurements for experimental record blanks, have been pasted into the book. The notes indicate that some of the caliper measurements were performed by an experimenter named Haviland and that Dinwiddie also received assistance from Peter C. Christensen and John McMullen. Among the unselected loose items inserted into the book are several cursory notes by R. Voorhis on celluloid records printed in May 1918, as well as notes by Dinwiddie, C. Hiles, and Charles G. Kircher. The front and back covers are labeled "26." The pages are unnumbered. Approximately 120 pages have been used.

March 11-18

1897-E Contact pressure on printing schedule on one press changed to 40 pounds - temporary connection to cooling water line. (35 to 40 lbs.) Run one set of moulds to test wear.

1865-E Blanks. 3-13-18

2 coats 1899-E 5 min visc
160 Blanks varnished
157 Blanks printed
3 pull outs on baked
2 wedge
14 low spots
4 snaps

Baked 1873-E schedule
2 blisters one out —
Printed 1887 schedule
85% OK.
(surface fair?)

1866-E Blanks
65 printed
5 pull out on baked
6 parallel cracks
3 poor prints
9 snaps
5 rough spots

56.9% OK
Surface { very good 9
good 2
rough 1

1866-E. Blanks
62 printed
6 pull outs
16 poor prints

64.5% OK.

1898-E Varnish 2 yr, run no 51 470 cc visc
100g phenol resin, 14.7% free phenol
7.3 phenol to bring free phenol to 24%
1 g. para.
1 g. sandarac.
7.8 g. 6/4
Alcohol to dilute to 5 min visc after gas black & ochrino have been added.
5. g gas black
3. g ochrino.

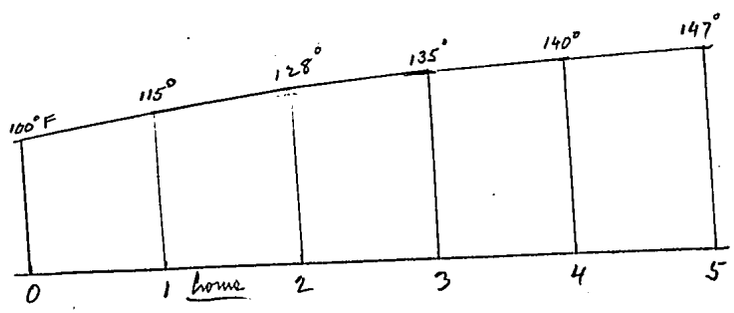
2d lot 16.8% free phenol — 28 cc viscosity. run number 50

1899-E Exp, to reduce pull outs on label.

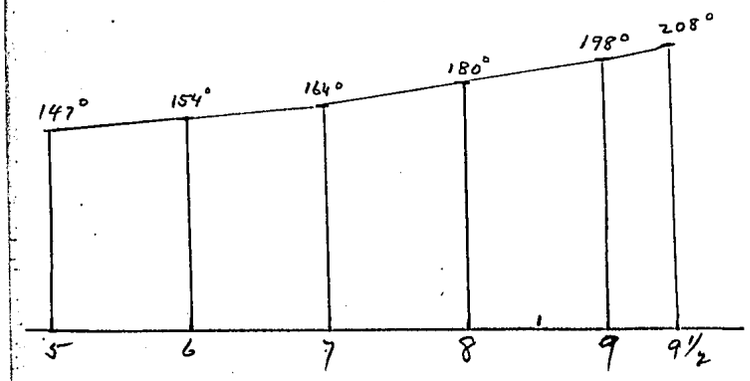
Leave center 8 inch circle in the blanks with only one coat of varnish.

Make 24 blanks - Base on 1873-E schedule.

1841-E varnish 5 min bise.



1900-E Special oven schedule -



1865-E Blanks - 2 coats 1841-E varnish 5 min bake

1179 printed

1 veneer pull out
2 cracked edges
31 pull outs on label
11 parallel cracks
8 radial cracks
3 wedges
5 stain
12 thick
30 warps
46 rough spots
~~129~~ total scraps

87.3 % OK,

3/13/18

1866-E Blanks Var 2 coats 5 minutes,
40 blanks printed. (Batch 1873)
6 P.O. on label.
1 parallel cracks. 75% O/K,
3 snaps. Sound same

Above were to have been printed on a single pair of new moulds to see if varnish had hard spots,

1901-E Varnish experiment
same as 1898-E except that the ground phenol resin is screened thru 100-mesh screen to prevent large particles of "insoluble" resin from getting in,

1866-E Blanks - Var 2 coats - 5 min viscosity

36 printed
11 p.o. on label
3 poor prints } 61.1% O.K.
22 O.K.

1902-E Same as 1901-E except that "ashing" is left out entirely.

C110

1903-E special oven schedule bake 9½ hours, curve up to 200°-

about same as 1973-E
no difference shown.

1866-E Blanks
bar 2 coats - 5 min viscosity, 1873 bake
38 blanks printed
3 pull outs on label
35 O/K. 92,1% O/K, 8 there printed

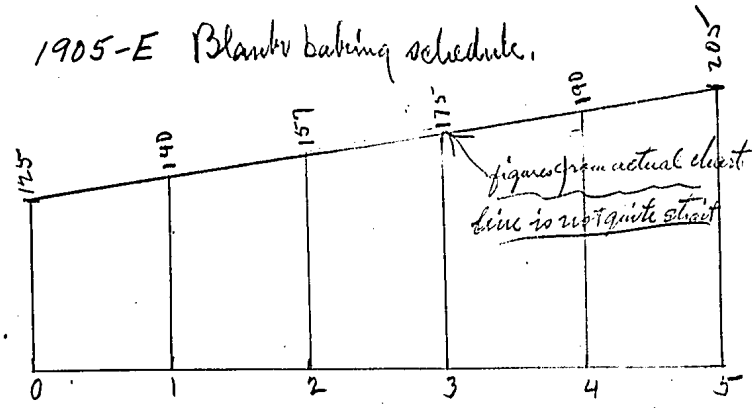
1904-E Same as 1898-E except use 2 g. sandarac to stop bubbles.

60 blanks varnished
53 printed
48 O.K.
} 80% O.K.

½ parallel crack
1 wedge
2 scraps
} 90.5% O.K.

See 1908-E

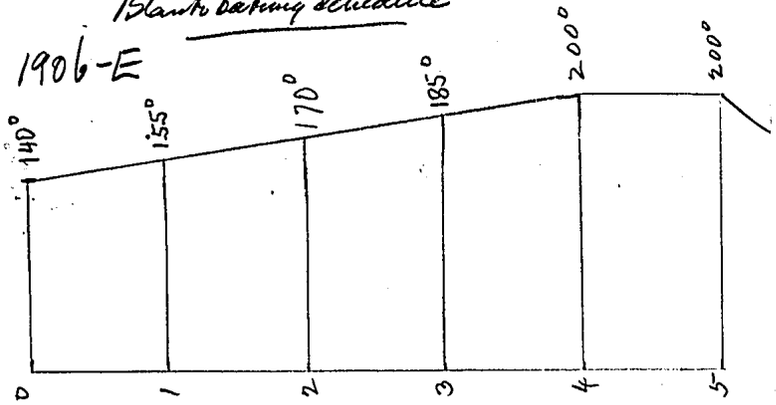
1905-E Blanks baking schedule.



60 blanks 1841-E 5 min bake, two coats - only two large bubbles in top rack.

Blank baking schedule

1906-E



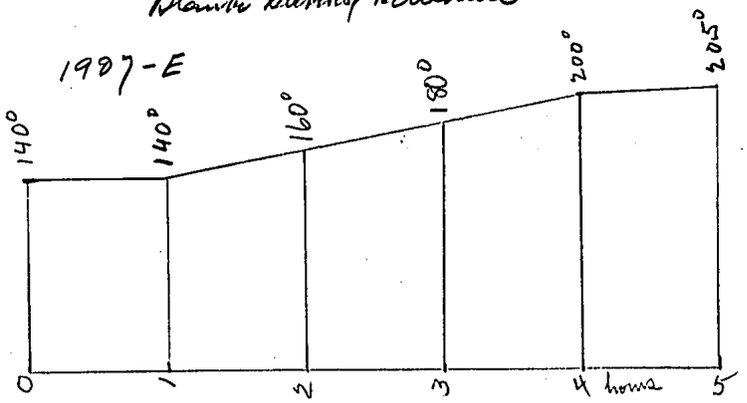
60 blanks 1841-E - 5 min visc. 2 coats.
N.G., very large bubbles - more in top rack,
Not printed - few without
large bubbles - -

Blanks look good after baking.
60 Blanks varnished –
60 " printed
54 OK.
1 varnish pull out
3 radial cracks
1 poor print.
1 smear.

90% OK.

Blanks baking schedule

1987-E



60 blanks - 1841-E - 5 min viscosity, 2 coats
no bubbles, (see 1912 and 1913)

Blanks look a little rough.

60 Blanks varnished } 100%
60 Blanks printed

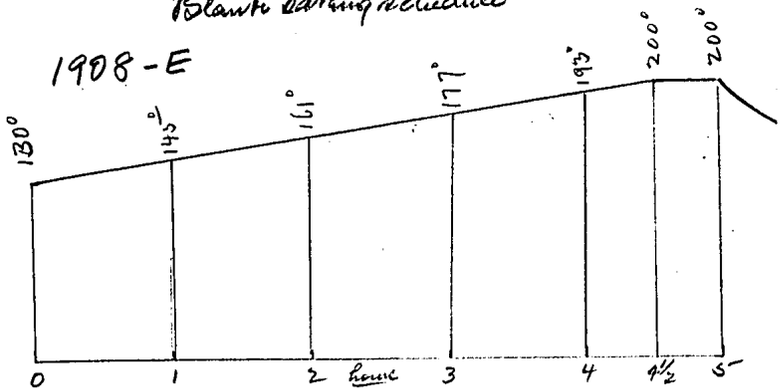
52 O.K.
3 wedge
3 thin
2 snaps } 86.6% O.K.

100% as far as varnish is concerned

GOOD.

Blanks baking schedule

1908-E



60 blanks 1841-E varnish 5 min viscosity - 2 coats.
no bubbles

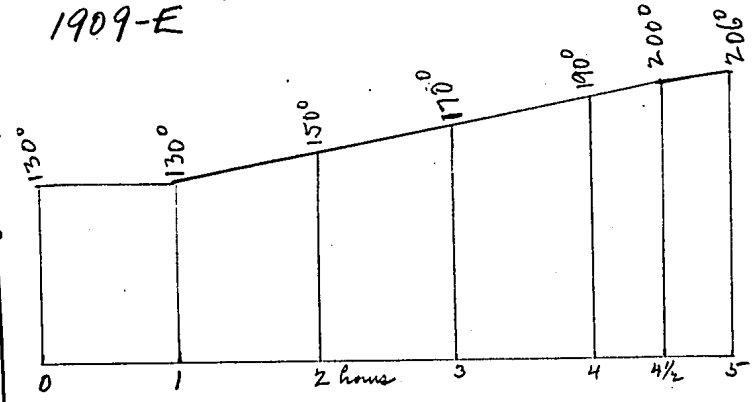
60 blankets varnished
52 printed
48 O.K.
1 wedge.
1 thin.
2 ampo.

92.3% OK

80% O.K.

1909-E

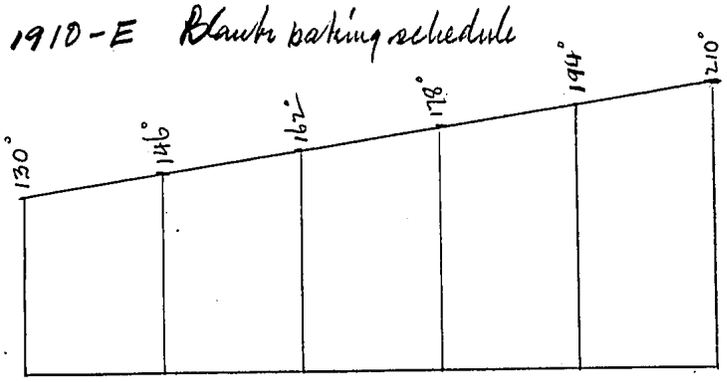
Blanket baking schedule -



60 blankets 1841-E varnish - 5 min viscosity
- 2 coats -

A few bubbles in top rack only, blankets full of small bubbles and rough.

1910-E Blanks baking schedule



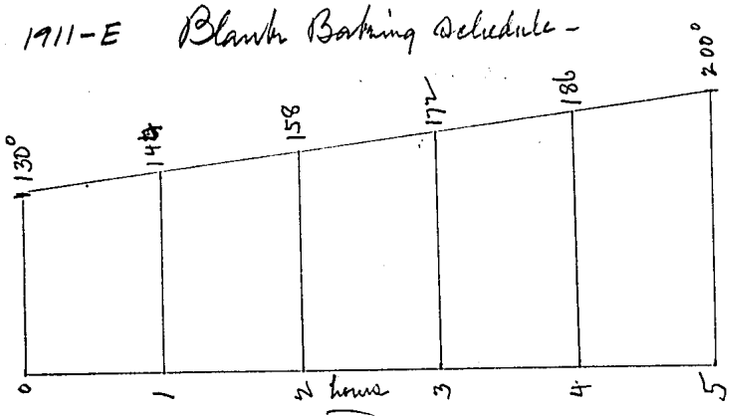
1866-E Blanks ~~Eff~~

~~27 printed~~

60 blanks varnished
31 blisters
1 chip edge
1 cracks
} 45% on baking

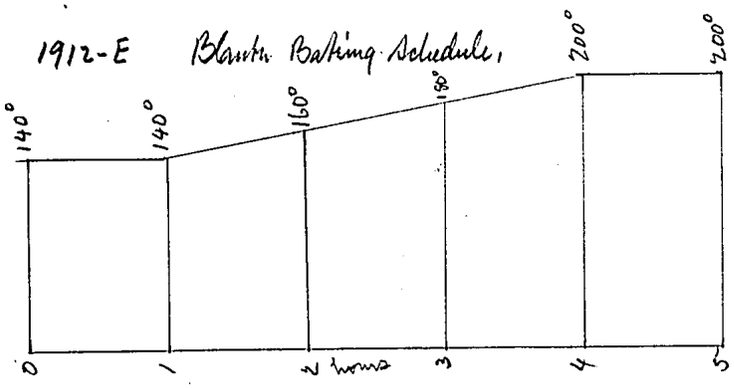
27 OK printed
2 pull outs on label
1 radial cracks
1 poor print
} 85% on printing

1911-E Blank Baking Schedule -



60 blankets 1866-E varnished 2 coats 1841-E 5 min bake
34 blisters, very large bubbles,
1 chipped edges, 40% on baking
1 cracks,
24 O.K., printed, surface smooth
2 wedges } due entirely to blankets
2 thicks }
only 40% on baking test
100% on printing.

1912-E Blanket Baking Schedule,



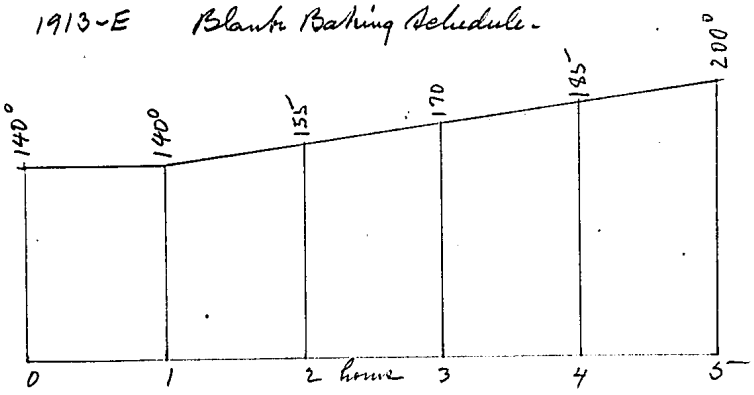
See 1907-E - nearly the same,
but a little softer than 1907

60-1866-E Blanks varnished 2 coats
11 blisters
1 chipped center surface rough
1 cracks -

47 printed
1 crushed edge
2 pull out
1 stain
3 snaps
2 rough spots

80% on printing,

1913-E Blanks Baking Schedule.



See 1907 and 1912 - a little softer than either,

39 printed,
13 pull out on label
3 parallel cracks
1 wedge
4 poor prints

46 — P/P OK,
Surface OK,

1914-E Varnish Exp

Same as 1898-E except use 1.5 para,
Use Rum No 50 phenol resin,
Make one quart.

37 painted,
1 curled edge
15 pull out dry label
2 radial cracks
1 poor print
3 wrops,

40 5/ % O.K.

Surface O.K.

1915-E Varnish Experiment
Same as 1914 except use phenol. Resin
run number 52

1916-E 28 Rd Blanks 3/16/18

	Low		High	diff	Low		High	diff
1	256	–	268	12	227	–	235 A.P.	8
2	252	–	289	37	219	–	252 P.P	33
3	250	–	262	12	Blister		Blk	
4	240	–	266	26	Blister		Blk	
5	256	–	273	17	224	–	237 A.P.	13
6	249	–	272	23	221	–	240 A.P.	19
7	234	–	304	70	Blister		Blk	
8	253	–	270	17	Blister		Blk	
9	246	–	264	18	Blister		Blk	
10	221	–	267	46	Blister		Blk	
11	251	–	262	11	Blister		Blk	
12	213	–	260	47	187	–	220 P.O.R.	33
13	242	–	285	43	225	–	241	16
14	242	–	276	34	Blister		Blk	
15	245	–	265	20	215	–	236	21
16	231	–	276	45	Blister		Blk	
17	253	–	269	16	Blister		Blk	
18	251	–	285	34	210	–	241	31
19	243	–	255	12	Blister		Blk	
20	250	–	273	23	213	–	236	13
21	220	–	282	62	Blister		Blk	
22	230	–	260	30	Blister		Blk	
23	234	–	285	51	Blister		Blk	
24	255	–	295	40	230	–	239 A.P.	9
25	246	–	261	15	205	–	235	5
26	250	–	279	29	213	–	240	27
27	224	–	294	70	Blister		Blk	
28	234	–	268	34	204	–	235 A.P.	31

1916-E

Make two rounds blanks regular except hold pressure in small jaws for a few seconds while coining. Fine +

Calliper for cup depth –

Pressure is 640 lbs.

Blanks seemed to strike hard lock on varnishing but enough were printed to make a load showing for wedge –

See 1919-E

16 blanks wedge over 25

4 records of the few printed

[39]

#1917-E 26 Special Blanks 3/16/18.

	Low		High	Diff	Low		High		
1	274	—	283	9	229	—	242 P.C		13
2	236	—	252	16	216	—	229		13
3	255	—	275	20	227	—	248		21
4	228	—	252	24	Blister		BLK		
5	241	—	273	32	Blister		BLK		
6	246	—	271	15	Blister		BLK		
7	255	—	270	15	Blister		BLK		
8	258	—	287	19	226	—	240		14
9	246	—	260	14	229	—	238		9
10	234	—	267	33	Blister		BLK		
11	252	—	257	5	Blister		BLK		
12	255	—	287	28	217	—	242		25
13	242	—	267	25	Blister		BLK		
14	251	—	266	15	223	—	235		12
15	238	—	257	19	Blister		BLK		
16	247	—	277	30	Blister		BLK		
17	239	—	252	13	210	—	221		11
18	247	—	273	26	223	—	240	P-P	17
19	247	—	283	36	Blister		BLK		
20	245	—	269	24	Blister		BLK		
21	248	—	278	30	Blister		BLK		
22	254	—	270	16	Blister		BLK		
23	248	—	261	13	223	—	230		7
24	234	—	255	21	Blister		BLK		
25	234	—	244	10	Blister		BLK		
26	240	—	270	30	209	—	233		26

1917-E

Make two rounds regular 1866-E Blanks, hold pressure like 1916-E Increase pressure to about 725 lbs.

See 1919-E

8 blanks wedge over 25
1 record of those printed.

C415

1918-E 26 Special Blanks 3/16/18

	Low		High	diff			diff
1	242	—	272	30	214 — 224		10
2	244	—	263	19	220 — 228		8
3	270	—	286	16	222 — 227		5
4	239	—	249	10	207 — 228	Cold Blk Dia	21
5	245	—	266	23	233 — 251	Part Dia	18
6	250	—	265	15	220 — 227	P.O. Rd Blk Dia	7
7	246	—	251	5	216 — 234		18
8	260	—	266	6	220 — 240		20
9	257	—	261	4	216 — 226		10
10	247	—	260	13	227 — 230		3
11	237	—	243	6	228 — 242		14
12	228	—	252	24	207 — 219		12
13	253	—	269	16	234 — 242		8
14	257	—	274	17	209 — 223		14
15	248	—	267	19	224 — 229	Poor Print Dia	15
16	242	—	249	7	225 — 233		8
17	239	—	275	36	229 — 232		4
18	258	—	262	4	226 — 232		6
19	250	—	260	10	223 — 235		12
20	248	—	256	8	217 — 225		8
21	241	—	259	18	207 — 235	Holes in Blk Dia	29
22	248	—	269	21	214 — 229		15
23	226	—	285	59	214 — 229		15
24	246	—	264	18	220 — 221		1
25	247	—	270	23	217 — 229		12
26	238	—	263	25	224 — 235	Poor Print Dia	11

1918-E Make two rounds regular blanks like 1917-E except pressure about 800 lbs. Calliper for wedge

Sec 1919-E

3 blanks wedge over 25
1 record " " 25

#1919-E 25 Special Blanks 3/14/18

	Low		High	diff			
1	245	–	279	34	232 –	P.O. Label 241 Dies	9
2	262	–	270	8	234 –	240	6
3	245	–	258	10	222 –	229	7
4	245	–	261	16	222 –	230	8
5	250	–	262	12	227 –	P.O. Label 231 Dies	4
6	247	–	266	19	223 –	242	19
7	245	–	263	18	222 –	237	15
8	260	–	272	12	233 –	240	7
9	253	–	266	13	224 –	227	3
10	249	–	257	8	223 –	232	9
11	243	–	257	14	218 –	P.O. Label 228 Dies	10
12	262	–	276	14	232 –	238	6
13	264	–	268	4	231 –	233	2
14	262	–	263	1	224 –	Poor Print. 232 Dies	8
15	239	–	256	17	213 –	P.O. Label 224 Dies	11
16	251	–	267	16	221 –	224	3
17	254	–	269	15	233 –	239	6
18	241	–	261	20	219 –	228	9
19	237	–	257	20	214 –	223	9
20	262	–	273	11	236 –	250	14
21	239	–	256	17	213 –	228	15
22	245	–	268	23	219 –	234	15
23	243		269	26	216 –	240	24
24	254	–	272	18	234 –	236	2
25	248	–	259	11	222 –	P.O. Label 235 Dies	13
26	261		281	20	236 –	245	9

1919-E Make two rounds regular blanks like 1917-E except have pressure about 875 lbs Calipers for wedges

Pressure changed to 875 lbs on regular blanks. March 18-18 at 5 20 P.M.

2 blanks wedge over 25
No records over 25
and all were printed.

#1920-E 26 Special Blanks 3/16/18

	Low		High	diff		diff
1	269	–	291	22	217 – 231	14
2	256	–	268	12	224 – 235	11
3	255	–	282	27	222 – 236	14
4	238	–	266	28	230 – 235	5
5	252	–	261	9	213 – 237	24
6	229	–	260	31	213 – 227	14
7	243	–	271	18	232 – 235	3
8	243	–	271	18	229 – 235	6
9	238	–	271	33	243 – 248	5
10	247	–	255	8	230 – 236	6
11	229	–	275	46	223 – 241	18
12	240	–	271	31	216 – 236	20
13	255	–	262	7	Crack Bulk	
14	245	–	276	31	220 – 229	9
15	261	–	284	23	237 – 246	9
16	253	–	266	13	210 – 243	33
17	266	–	279	13	237 – 245	8
18	239	–	252	13	225 – 232 crack Label Dice	7
19	266	–	293	27	227 – 246	19
20	251	–	274	23	229 – 239	10
21	235	–	258	23	227 – 243	16
22	257	–	261	5	232 – 248	16
23	251	–	253	2	223 – 242 P.O. Label	19
24	250	–	268	18	227 – 233 Dice	6
25	250	–	267	17	217 – 221 Thick	4
26	253	–	289	36	248 – 252 Dice	4

Calliper measures by Haviland

1920-E ~~separate~~ two rounds regular blanks like 1917-E except have pressure 945 lbs. (about)
Calliper for wedge –

9 blanks wedge over 25 –
one record wedge over 25 –

See 1919

#1921-E 26 Special Blanks 3/16/18

	Low		High	diff		diff
1	227	–	264	37	227 – 237 crack label Dice	10
2	242	–	251	9	227 – 247	20
3	244	–	272	28	219 – 231	12
4	252	–	260	8	229 – 236	7
5	240	–	249	9	220 – 230	10
6	240	–	283	43	222 – 229 P.O. Label Dice	7
7	251	–	260	9	219 – 235	16
8	235	–	270	35	225 – 238	13
9	241	–	262	21	231 – 243	12
10	262	–	278	16	217 – 228 P.O. Label Dice	11
11	263	–	264	1	217 – 226	9
12	242	–	249	7	231 – 234	3
13	244	–	252	8	236 – 244 Poor Print. Dice	8
14	264	–	279	15	227 – 232	5
15	251	–	274	23	218 – 229 Crack Label Dice	11
16	239	–	275	36	215 – 238 Poor Print. Dice	23
17	232	–	241	9	230 – 234	4
18	254	–	272	18	222 – 234	12
19	248	–	263	15	221 – 239	18
20	243	–	267	24	235 – 238 P.O. Label Dice	3
21	251	–	277	26	230 – 245	15
22	235	–	247	12	228 – 230	2
23	250	–	256	6	223 – 236	13
24	253	–	279	26	233 – 249	16
25	237	–	250	13	212 – 223	11
26	243	–	267	24	222 – 234	12
			Av.	18.4	Av.	11

Compare with 1922-E

1921-E Blanks made on coil presses

Presses No 11 and No 12

#1922-E 26 Special Blanks 3/16/18

	Low		High	diff			
1	252	–	288	36	216 – 246	–	30
2	244	–	259	15	223 – 230		7
3	226	–	256	30	225 – 235		10
4	241	–	272	31	220 – 233		13
5	243	–	281	38	222 – 230		8
6	249	–	269	20	219 – 242 Dice (Smiles)		22
7	240	–	265	25	Blister Blk		
8	241	–	275	34	229 – 229		0
9	248	–	262	14	224 – 250		26
10	240	–	254	14	219 – 232		13
11	246	–	262	16	214 – 231		17
12	235	–	249	14	212 – 234		22
13	230	–	263	33	223 – 234		11
14	242	–	261	19	213 – 232		19
15	244	–	279	35	221 – 236 Dice (crack Label)		15
16	241	–	269	28	220 – 236		16
17	244	–	255	11	222 – 231		9
18	254	–	274	20	215 – 221 Dice (P.O. Label)		6
19	252	–	269	17	224 – 240 Dice (P.O. Label)		16
20	257	–	279	22	206 – 233 Dice (P.O. Label)		27
21	251	–	266	15	225 – 232 Dice (P.O. Label)		7
22	242		270	28	219 – 230		11
23	245	–	280	35	222 – 247		25
24	257	–	271	14	227 – 236		9
25	230	–	263	33	219 – 239		20
26	228	–	263	35	224 – 247 Dice (Pair in)		23
			av	24	av		14.2

March 16-18

Compare with 1921-E

1922-E Blanks made on swing joint presses

Presses Nos 3 & 4

CS[illegible]

Blank No.	Thick Sector Measure	Thick Sector Weight	Thin Sector Measure	Thin Sector Weight	Thick over thin % Meas	Thick over thin % WT.	
1	290	33.7	234	30.4	24	10.9	
2	269	32.6	251	33.2	7	-1.9	Measures
3	274	32.2	229	31.0	20	3.5	made by
4	267	33.4	257	31.8	4	5	Christensen
5	263	30.2	226	31.9	16.4	-5.6	March 18-17
6	297	35.4	206	27.3	44	30	
7	277	31.8	223	28.9	24	10	
8	262	31.8	231	30.6	13	4	
9	279	34.5	233	31.6	20	9	
10	287	34.3	241	31.3	19	9.6	

This indicates that most of the original trouble is in loading and not eliminated by the packing press. Tho a negative result is shown in two cases – indicating trouble in large press.

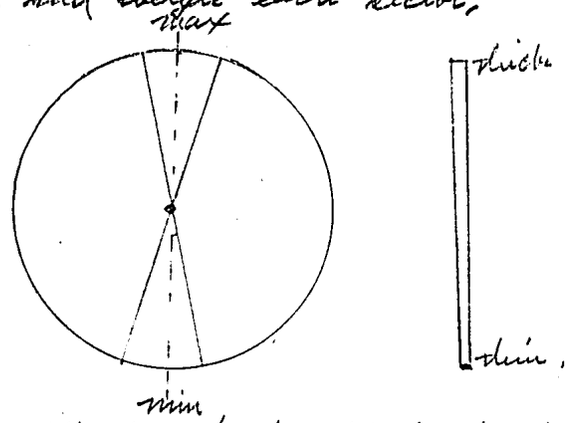
Theory ???

Loading is not uniform. Small press does not come up parallel. Must be guided up and forced parallel by a longer ram. ?

Slight inequality of loading sets the angle of the press when firm contact is first made. When blank is compressed this angle means a greater percentage of whole thickness than of original thickness. and increases discrepancy. This action is further increased in the large press.

Important crucial experiment.

1923-E Experiment on wedge blanks. Take 10 blanks caliper thick and thin sides, mark max and min point. Cut out exactly equal sectors on each side and weigh each sector.



This will show if trouble is in loading or in pressing.

Sectors cut out by marking with tin sector and saw out by band saw

because to straighten up, the surface would have to slide.

Press sent to Laboratory March 18
asked Ball to take charge of remodeling it March 20.
Press finished April 6-18

3-20-18

80 - 1918-E Blanks varnished
2 coats 5 min bisc 1941-E varnish
15 blanks discarded
65 permitted.
19 pull out on label } due to other causes
4 parall crack } probably -
1 wedge
11 poor print
7 snapes.
23 OK — only 35 3/0 OK.

Chinetemen made temperature test 150° to -20° Fahr. All six rounds OK.

1924-E - Same as 1898-E except leave out sandarac entirely.

CSSJ

3/15/18

1925-E

24 blanks varnished allover first coat. second coat the label not varnished,

24 printed,
1 pull out on label-

Same as above except that center is varnished on 2d coat instead of first.
24 printed,
1 white spot
1 cracked blank-

This is not so good as first way because brush is fouled by the dry center of blank for 2d coat varnish.

1926-E Sandarac —

Beginning Monday March 18 all sandarac used in the varnish is dissolved, decanted and filtered separately to get rid of sand, beginning Tuesday Mar 19 all Para is dissolved first to get out small traces of iron and dirt. ——

Sandarac 5559 grammes contained over 50 grammes of white sand, or 1% —

Spatula test developed grit in varnish. Christensen extracted all resin from small sample - leaving residue of silica with the lamp-black, Hoffman suspected the sandarac and Christensen took a sample and found the sand, Christensen also examined the Para and found particles of iron.

1927-E Take an O.K. Copper mould—
polish margin and feed lines on
polishing machine, with brush and
rouge. Polish until smooth, very
much more than it would be
safe to polish the music.
Suggested by McMullen March 19-18
This makes the start more quiet.

40 blanks varnished
6 discard for blisters (bubbles)
34 printed,

85% 1 pull out on label
2 parallel cracks,
1 white spot
0.1% 1 snap.

1928-E Special varnish to see if stickyness due to low viscosity of phenol resin can be reduced by adding more 6/4

100 grammes resin } Run No 52
7.7 phenol } Free phenol 14,3
1 para } viscosity 43
1 sand
7.9 6/4
140 Alcohol.
5 Gas black
3 shino.

— 2 coats 5 min —
40 blanks varnished
2 blisters
1 chipped edge
37 printed
1 veneer pull out
4 pull out on label
2 parallel cracks
2 cracked blanks
2 snaps
26 O/K 72%

1929-E Special varnish
Same as 1928-E
except use 8% of 6/4

no Bubbles in baking

1930-E Baking schedule etc.

Varnish first coat air dry 30 min
Varnish 2° coat air dry 30 min
Put in oven at 100° F
after one hour 115°
after two hours 130°
then continue on 1908 schedule,

— to get rid of bubbles —
Principle is not to heat the varnish in baking process so that it becomes fluid at any time.

See 1933 also.

1931 - E Printing press schedule
To prevent cracking blankets -
Contact - until thermometer
reaches 200° mark then 3 minutes
more, Then take two minutes
more to come up to full pressure
very slowly to prevent breaking
blankets, then hold full pressure
on steam for 7 minutes more,
made - Low points -
Hold only two minutes after 200° mark is
reached then take 2 minutes to come up.
This works better,

1932-E

Principle suggested in 1930-E to prevent possibility might reduce or eliminate most of the run outs.

Examine blanks carefully to see if top edge in batting is different from bottom edge, no difference

1933-E Baking schedule same as 1908 except that temperature is brought up to 130° in only one hour.

Received 111
OK. 104 chipped edge 2
Disc 7 thick 3
wedge 2
93.6% OK. on blank 7
bar 2 cracks 5 mim Since 1841

93 printed.
1 crushed edge
5 par ck
2 rad ck
5 wedge
* 43 thick —
1 poor print

1934-E Same as 1866-E except use 400 pounds pressure on blank press instead of 450 lbs (1827-E)

Recd 111
O.K. 93
discard 18 — chipped edge 3
cracked 11
wedge 4
18

83.7% OK

90 printed —
1 corner pull out
16 parallel ok
2 rad ok
1 white spot
2 thick

73% OK

1935-E Same as 1866-E except use 500 lbs pressure on blanks press instead of 450 lbs (1827-E)

1936-E See 1824-E, 1827-E, and 1918-E

30 lbs Union wood,
30 lbs Dupont or Hornbeam,
2 lbs Gas black, (with chalk)
50 lbs alcohol,
12 lbs resin less .06 of a pound for every .1 of 1% of Rosin in the wood flour, about 3%. This is to make the resin content of the powder constant.

Example Union wood 2.7% Resin .06
Dupont wood 4.1 .4
6.8 .24
average 3.4 use 11.76 lbs

1937-E (A.H.I schedule) Hoffman - to make blanks softer,
3 min contact, 125 lbs.
2 min hydraulic pressure - 450 lbs. (1927)
otherwise regular - (1781E, 1819-E)
Tried to make blanks a little softer -

81 printed
1 crushed edge
14 pull out on label
15 parallel ck
1 snap -
61 % OK

1170 printed -
840 OK,
1 runny O,
1 crushed edge
109 P.C. on label
* 164 parallel crack
9 radial crack
2 wedge
4 thick
21 poor print
1 stain
15 snap,
3 rough spot
71 % OK,

CDJ

1938-E Make 100 blanks 1261 schedule
no contact pressure after ram is
full - High pressure 450 lbs on for 5 min.

104 blanks made.
83 varnished
1 discard
82 printed
1 pull out on label.
2 parallel cracks.
4 poor prints.
94% O.K. on printing

4/2/18

892 printed
11 lower P.O.
51 P.O. on table
82 parallel O.K.
10 radial O.K.
3 wedge
1 Broken screw.
15 poor prints
11 thick
3 stain
14 snaps
1 Silver Spot
13 Rough Spot
75% O.K.

4/6/18

528 printed -
12 screw pull outs.
3 crushed edges.
33 pull outs on labels.
12 parallel cracks
18 marginal cracks
1 wedge
66 thick.
79 poor prints
3 dents
7 stain
3 low spots
34 snaps
8 silver spots.

Printed
4-9-18 schedule
See 1953-E

3856 printed 4/5/18

18 screen pull outs.
10 crushed edges.
81 pull outs on label.
162 parallel cracks.
60 radial cracks.
21 wedge
9 stain
97 poor prints
382 thick
6 cracked center
6 low spots
48 scraps
1 silver spot
105 rough spots

1006

73 9/10 O.K.

1939-E Dry enough wood flour to make up several drums 1936-E

Dupont had 6.1 % moisture –
Union 8.2 "

(This drying done during stripe of blanket machines. — March 26-27)

3/30/18	4/1/18
208 printed.	1876 printed
154 O.K.	3 screen pull outs
1 screen pull out	10 crushed edges
4 label " "	45 label pull outs
8 parallel ck	50 parallel ck
1 radial ck	20 radial ck
1 scratch	17 wedges
7 poor prints	30 poor prints
14 thick	2 scratch
1 low spots	2 stain
17 scraps –	184 thick
54 scrap	72 scraps
	9 rough spots
74 % O.K.	443 76 3/10 % OK

1940-E Repeat 1894-E using wood flour dried 1939-E.
Packing pressure will be 800 lbs - work in with tailings of 1939-E as 1861 tailings were worked in with 1894-E
Mould regular -

1707 Printed
8 veneer pull out
5 crushed edges
43 pull outs on label
29 parallel cracks -
10 radial cracks
2 wedge
* 201 Thick — 78% OK. with thick.
20 poor print. — 90% without the thick
1 thin — blanks being thick always
3 stain — reduces cracks -
1 wood in blank
2 loro spots
30 snaps
1 silver spot
18 rough spots
374 scrap.

1941-E. All weights on accumulator for packing
press — 1000 lbs pressure
7/8" high mould ring —
ring strike off.
100 blanks 1936 powder

1942-E All weights on accumulator for packing press, —1000 lbs pressure
1/16" thick discs inside moulds to make the equivalent of 15/16" mould ring,
ring strike off
100 blanks 1936 powder -

71 blanks printed.
11 p.o. on label.
8 parallel cracks.
1 thin.
2 thick
2 poor print.
2 images.

1943-E Same as 1942 except one regular
inner - ring stripe off — all blankets
come very thick

4/6/18
462 printed 228 schedule.

1 veneer pull out
7 crushed edges
12 pull out in label
11 parallel cracks
1 radial crack
4 wedge
x 23 thick
x 13 poor prints
x 3 low spots
11 wraps
x 15 rough spots.
71.1 % OK.

1944-E. Same as 1940-E except reduce pressure on packing press from 800 lbs to 750 lbs to reduce percentage of thick blanks.

C957

4/6/18

503 printed See 1953-E 2-2-8 schedule

3 corner pull outs.
11 pull out on label.
18 parallel cracks.
3 radial cracks
1 stain
* 48 thick
9 poor prints
11 snaps
1 rough spot
79 1/10 OK.

1945-E same as 1944 except press on 1261 schedule like 1938-E

1946-E Same as 1940-E except use [redacted]
1936-E porch - made with wood flour
just as it comes.
Cut out in acc of thick blanks,
— SCL 1948 —

4/6/18 su 1953
475 printed 2-2-8 schedule.

3 veneer pullouts.

1 crushed edge.
28 pull out on label.
24 parallel cracks.
5 radial cracks.
5 wedge.
6 thick.
8 poor prints.
2 overlap.
15 rough spots.

79.5 % OK.

1947-E Same as 1946-E except press on
12 61 Schedule libre 1938-E
750 lbs pressure in packing press.

C[101]

4/6/18

472 printed see 1953 202-8 schedule

7 veneer pullouts
24 pull out on label
16 parallel cracks
11 radial cracks
2 low spots
6 snapo
17 rough spots

82.4 % OK.

Hropteet

1	-	8
2	-	4
3	-	16
4	-	16
5	-	3
6	-	2
		49

1948-E Same as 1946-E except pressure of 750 lbs in packaging process like 1944-E.

Same as 1949-E
Except viscocity 3^m 30^sec.

40 Printed. on 1952-E Blanks.

1 Pull out on label
5 parallel crack.
2 poor print
1 snap.
} 77.5 % O.K.

1949-E (A special Resin).

39 printed

2 pull out on label
4 parallel cracks
19 poor prints
4 thick
25.6 % O.K.
trouble with steam.

1949-E varnish – Clear varnish, with only enough gas black to color it.

100 g. Phenol resin.
phenol to make free phenol 22 %.
1 g para.
1 g sandarac.
7.8 6/4
(140)? alcohol –
1.5 Gas black.
dilute to 5 min viscocity.

4/4/18

33 printed
1 veneer pull out 63.6 % O.K.
1 parallel cts.
10 poor prints –
Shows layer of varnish OK –
Prints all look dull like 1950 and 1951

CIVS J

same as 1950-E
except 3min 28sec viscosity

41 printed — 1952 & Blanks.
4 parallel c/r
1-thick
2 snaps
} 82.9% O.K.

1950-E (A special Resin)

38 printed
2 pull out on label
4 parallel cracks
6 poor prints
2 thick.
63.1% O.K.

1950-E varnish,
100 g. Phenol resin
phenol to bring free phenol to 22%
1 g. para
1 g. Dandarac
7.8 g. 6/4
(150 g) ?. Alcohol
1.5 g gas black
5. g Shino,
dilute to 5 min viscosity,

37 printed — 4/4/18
1 ~~label~~ pull out
2 parallel cr.
2 loco. spots
3 poor prints
1 snap -
} 75.6% on printing
shows ~~good~~ layer of varnish on top — all prints show dull —

Same as 1951-E. 4/6/15
except 3 min. 32 sec viscosity.
40 Printed 1952-E Blanks.
4 poor prints. 90% G.H.

4/5/15
1951-E-A special Rain –
5 min viscosity.
39 printed.
1 crushed edge
1 pull out
1 parallel etc.
24 poor prints,
1 thick
1 snap.
steam was variable and gave a lot of trouble about the time that this was printed.

1951-E Varnish –
Same as 1949-E except leave out the Dandarac.
Make one quart –

38 printed 4/4/15
2 lower pull outs
1 parallel etc.
2 thicks
9 poor prints
1 snap.
60.5-E/5 BK

seemed to soak into the blanks in printing showed very thin layer –
all prints look dull like 1949 & 1950.

1952-E-1261-E 1841-E two coats 5 min disc.

100 printed

76 OK. 76%

10 pull out on label

4 parallel ck

4 thick

5 poor prints.

1 snap.

1952-E-1962-E disc 4^{45} 45% OK. see 1962-E

1952-E Same as 1936-E except pressure on packing jenny reduced to 750 lbs from 800 lbs to stop blanket coming too thicker —

CHU

(Schedule 2-2-8) A Side	(Schedule 1-2-9) B side	
554	418	Records printed
385 69%	298 70.5%	OK.
169	120	scraper
1		Veneer pull out
1	3	Curled edges
7	8	Pull outs on label
35	33	Parallel crash
13	2	Radial crash
	3	wedge
73 ←→	29	Thick –
23 ←→	12	Poor prints.
1		low spot
11	9	creases
	1	silver spot
4 ←→	19	rough spots –

1953-E Experiment to reduce low prints.

printing schedule –

see 1931-E

(1) run one end of printing room on schedule holding low pressure one minute after 200° marks is reached then take two minutes to bring up the high pressure. "1-2-9 schedule"

(2) run other end holding low pressure for 2 minutes after 200° mark is reached and then take 2 minutes more to bring up the full pressure – "2-2-8 schedule"

Both have steam on for 12 min. after 200° mark is reached.

1954-E

Make one quart of 1949-E varnish using Phenol resin that has been ground as fine as possible. This is to obtain the same effect as 1901-E. but make it 200 mesh fineness if possible.

Lot A is made from dust caught on the linen filter on the mill over receiver box. viscosity 4.35

Lot B is made from resin passed thru (80-mesh?) screen in chem. lab by Christiansen

Lot B – viscosity 3.04

Lot A.
36 printed 1334-1952-E Blanks.
7 Parallel ck.
? 17 Poor prints.
1 stick.
11 O.K. prints
30.5-% OK on printing.

Lot B
36 printed 1334-1952-E Blanks
4 parallel ck
? 22 poor prints.
1 snap
9 O.K. prints.
25% OK on printing.

1955-E 5 min visc & coat on 1952 Blanks.
36 printed 2-2-8 schedule -
29 O.K. " 80 5/9 %
7 poor prints.

1955-E Varnish Experiment.

take one quart of 1841-E varnish before any gas black is put in just as it comes from the filter press - then add a very small quantity of the regular 1841-E just as it comes from the paint mill - with paint mill adjusted very tight for very slow feed - 1/16 C. just enough to make the varnish black and note how much is used. (63 grammes used)

4/9/18 Viscosity 6'-35"

Very glossy blanks. -1334-1952-E Blanks.

40 blanks varnished
2 second classed
in printing

86 printed. } -2-2-8 schedule-
6 parallel ch } 52.7% OK on printing.
10 poor prints. } 19 O.K. Prints.
1 snap.

4/10/18 1952-E Blanks

3 blanks	1 OK	2 poor prints		2-2-9 schedule-
3 "		3 poor prints		2-2-8 schedule 140 lbs contact pressure
3 "		3 " "		5-2-5 schedule
3 "	1 OK	2 " "		2-2-8 schedule req. 60 lbs contact
3 "		3 " "		3-9 "
3 "	1 OK	2 " "		12 min old req. schedule.
3 "		3 " "	2 min heat at 60 lbs contact 2 min " 200 lbs 8 min " 750 lbs	
6 "	3 OK-Which 2	" "		2-2-8 schedule

2-2-8 works best but the very shiny varnish seems to trap air and make fuzz and poor prints of similar character.

6117

1956-E Varnish. Take one closed mixer of 1841-E varnish and put in with the slinger about one pint cup full of gas black. Run for a full hour with the slinger and then get through the filter press. If it is black send it up stairs as it is. Take viscosity, but do not alter it unless it should be above 5 min.

When this came from the filter it left practically all of the lampblack in little balls. The lampblack will have to be put from paint mill to mixer. May be made like 1955-E

4.56 viscosity

12 printed 1-1-10 schedule - 1 O.K. 2 parallel cks 9 poor prints
6 " 2-2-8- 4 O.K. 1 label ck 1 poor print.
2d lot 5 min viscosity.
12 " 2-2-8 12 poor prints. } Rotten
12 " 2-2-8 12 " " }
12 " 2-2-8 12 " " }

54 printed only - 5 O.K.

40 varnished 5 min viscosity.
36 printed 2-2-8 schedule -
17 OK 47.2%
1 pull out on label.
2 parallel ck.
2 radial ck.
14 poor prints.

1957 - E one quart of 1841-E varnish just as it leaves filter press - before adding lamp black, viscosity 4.56"
Very glossy blanket -

1958-E

Submaster printing schedule - contact pressure both.
Steam on - Thermometer at 240° - set clock
after 3 min - take one minute more to bring up
high pressure hydraulic to 900 lbs.
Hold high pressure hydraulic with steam for
6 minutes more than cool.

this changed to 5 min.

1859 E Blanks inspection.

							waterspots	cracked	wedge	Pullout
4-9-18 - 85% OK. 462	received	392 OK	12	chipt edge	10		20	10	18	Total 70
4-10-18 - 78.6% OK. 700	"	550 OK	40	"	"	(40)	30	20	20	150
1859 E - 1261-E										
4-9-18 - 86% OK 239	"	205	16		5		3	3	7	34

1959-E 4/11/18
370 printed.
281 OK.
89 discard.
2 veneer pull out.
22 pull out on label.
11 parallel crack.
13 radial crack.
* 30 thick.
6 poor print.
4 snaps
75.9% OK.

1959-1261-E 4/11/18
187 printed
162 OK.
25 discard
9 Pull out on label
5 parallel crack
2 radial crack
2 thick
7 poor print
86.6% OK.

Dropped

1959-E
1 - 17
2 - 20
3 - 13
4 - 3
5 - 1
6 - 3
57

1959-E-1261-E
1 - 8
2 - 20 19
3 - 20 12
4 - 20 9
5 - 20 4
6 - 20 7
59

See 1960-E

4/12/18
518 printed.
433 OK.
85 Scrap
1 veneer pull out
2 crinkled edge
24 p.O. Gas label
26 parallel crk
23 Radial crk.
7 poor print
1 thick
1 snap.
77.7% OK.

1959-E Blanks —

Same as 1824-E except as follows:
Pressure on large press 450 lb like 1827-E
Packing press pressure 750 lb
Mixture 25½ lb Vulcan wood
28½ lb Dupont wood
43 lb shells
11 lb I Resin corrected for resin in the wood like 1936-E
50 lb Alcohol
2 lb gas black

In screening the dust mix in reground trimings from 1952-E
Wrapped 200 blanks on 1261 schedule — Flow normal
Bevel blanks only 1/8 inch to rest on submission of [illegible]

399 records edged 96.2% OK. on edging.

1960-E Blank Inspection

	Received	O.K.	chipt Edge	water opts.	Cracked	wedge	Pullouts	Total discard
4-9-18 - 86% OK	449	387	32	5		15	10	62
4-10-18 - 75.3% OK	748	563	120	15	20	20	10	185
1960-E-1261-E								
4-9-18 - 80.9% OK	204	165	12	8	10	4	5	39

1960-E 4/11/18

351 printed
291 O.K.
60 discard
2 veneer pull out
1 crushed edge
17 pull out on label
2 parallel cracks
1 radial cracks
6 wedge
17 thick
5 poor print
8 snaps
1 rough spot.
82.9% O.K.

1960-E-1261-E 4/11/18

153 printed
112 O.K.
41 scrap
1 parallel crack
3 wedge
* 24 thick
8 poor prints.
2 stains
3 snaps

73.2% O.K.
89% O.K. if thicks are not counted

Drop test

1960 E	1960-E-1261-E
1-1	10
2-20	20
3-20	8
4-20	20
5-20	1
6-20	2
101	56

2857 printed 2-2-8 schedule (see 1953-E)
2181 O.K. 76.3%

10 veneer pull out
13 crushed edge
127 pull out on label
512 parallel c/k
70 radial c/k
7 wedge
25 thick
73 poor prints
1 scratch
4 low spot
34 snaps.

397 printed 4/17/18
357 O.K. 89.9%

7 pull out on label
16 parallel ck
8 radial ck
2 poor prints.
7 snaps.

1960-E. Same as 1959-E except use 12 lbs resin - Resin corrected for resin in the wood like 1956-E
Follow up 1959-E in screening to get same regrind tailing from 1959-E to start with.

1960-E-1261-E 4/17/18

202 Printed 2-2-8 schedule see 1953
183 O.K. 90.5%.
2 pull out on label.
11 parallel ck.
2 radial ck.
1 poor print.
3 snaps.

345 records edged give 96.5% O.K. on edging 4/15/18

1961-E Baking schedule for blanks
one lot of 1955-E and 1957-E baked
like 1933-E except held on 200° for
one hour instead of ½ hour
See note on 1876-E

1962-E Varnish Experiment – Make one quart.

actual measures
Resin Run 1058
11.4% free phenol.
Viscosity 37 sec.
amt used for quart
3.5 times formula.
390 g. phenol resin.
37 g. phenol
3.8 g. Para
3.8 g. Sand.
27.6 g. b/4 –
35.0 g. gas black.

100 g. Phenol Resin. + same number of g. of Phenol Resin as percentage of free phenol in the resin in the first place – 11% free phenol in 15% table 115 g. phenol to bring up percentage to 22% – this gives 100 g resin 22 g phenol

1.1 g. para
1.1 g. Sandarac.
7.9 g. b/4
130 g. denatured alcohol
10 g. gas black –
bring to 5 min viscosity.

40 printed
18 OK. 45%
2 parallel cracks
1 radial crack
2 thick
* 17 poor prints

10 printed 4/15/18
9 OK. 90%
1 veneer pull out.

C131J

1963-E varnish exp.

Same as 1955-E except use 120 grammes of the 1941-E varnish with gas black to see if we get fewer poor prints.

40 printed 1952-E blanks 2 coats 5 min vac.

4/13/18 23 O.K. 57½%

1 parallel ck

* 15 poor prints.

1 snap

1964-E Varnish Experiment - Ch. Christmann.
100 gms phenol resin - (Pm No 61)
125 gms ~~Denat Alcohol~~ -
7.9 6/4
1.9 para
1.9 nitrosodimethylanaline
a yellow dye which turns black on heating.

8 Prints made - one pull out - all are black but a little brownish compared to lamp black -
On acc of the phenol resin not being co-heated for free phenol we can not tell much about it.

On account of free phenol being left out apparently there are no poor prints. all clear varnish menstrue has poor prints

1965-E Varnish Experiment - Christensen.
≈ 25 gms of regular 1841 varnish before
shino is added.
2 grammes nitrosodimethylaniline.

See 1964-E

57 printed 2-28 schedule.
45 O.K. 78.9 % O.K.
2 pull out on label
9 parallel ck
1 snap.

1966-E - Same as 1962-E
except use 15g. of gas black
instead of 10g.

4 min viscosity 60 varnished.
60 printed 2-2-8 schedule -
52 O.K. 86 6/9 %
1 pull out on label
1 parallel ck.
1 radial ck.
4 thick
1 snap.

5 m 21 sec viscosity
50 blanks varnished.
44 printed
1 crushed edge
2 pull out on label
9 parallel ck
3 thick
6 poor print
22 O.K. 50%

194 printed
140 O.K. 72 5/9 %
1 bender pull out
34 parallel ck
1 radial ck
12 poor print
6 thick.

1967-E
Take one quart [illegible]
1941-E and add 20 grams [illegible] -

60 blanks varnished 2 coats 5 min 1841-E
60 printed 2-2-8 schedule (see 1953-E)
38 O.K. 63 3/5%.
12 parallel ck.
3 radial ck.
2 poor print.
1 thick.
1 thin.

1968-E Varnish — Experiment — Formula request,
350 gms phenol resin, Rum Rob 2 141 F.P.
27 1/2 gms Plasticizer
8 1/2 gms Bora
8 1/2 gms Sandarac
27 3/10 gms 6/4
500 gms denat Alcohol
16 gms ethno,
50 gms gas black,

See 1841-E for manipulation

1969-E

-Rum 7106 2-

See 1462-E same except use 50 g. phenol for one gallon.

Cinnamon	114.1 g.		349 g.
Phenol	7.9 g. / 122 g.	100 phenol rum / 2.2 phenol	27.6 g. phenol.
Java.	1.1 g.		3.8 g.
Sandarac	1.1 g.		3.8 g.
4/4	7.9 g.		27.6 g.
Cowhide	20 g.		70. g.
Alcohol	—		

Bring to 5 min viscosity.

C1459

1970-E

92.1 g. phenol resin [illegible] 14.1 free phenol.
7.9 g phenol.

100 g phenol resin containing [illegible] % free phenol.

1 g. Para.
1 g. Sandarac.
7.8 g. 6/4
20. gal gas black. Alcohol to bring to

For one quart 3½ times above.

32.2 g. Phenol resin.
27.6 g phenol
3.5 g para
3.5 g Sandarac
27.3 g 6/4

1971-E

Varnish 6 blanks with 3 coats of regular 5 min. diss. varnish, bake and print regular, air dry & leave between Gals.

1933-E bake - 220 minutes printing (1953-E)

5 O.K. see page [illegible] file [illegible]

1972-E Varnish 100 blanks with one coat 3 min baking varnish dry 1/2 hour then one coat 5 min bake then air dry 1/2 hour and add another coat of 5 min bake, Bake 1933-E

C150

1973-E same as 1959-E except use 13 lbs resin - corrected for resin in wood.
Make 2 drums -

4/23/18		4/23/18	
934	printed	1297	printed -
772	G/K, 82 6/0	1040	G/K 80 1/2 %
1	veneer pull out	3	veneer pull out
2	crushed edge	2	crushed edge
21	pull out on label	24	pull out on label
71	parallel crack	125	parallel crack
15	radial c/k	47	radial crack
1	white spot	17	poor print,
4	poor print,	19	thick
35	thick	4	crushed center
3	stain,	13	snaps
7	snap	2	silver spots
2	rough spot	1	rough spot.

1974E Same as 1957-E
except as follows —
30 lbs Bolson wood
30 lbs Dupont wood
12 lbs I rosin cemented
for Rosin in wood

[illegible]

4/25/18

3128 printed
11 brown p.o.
5 crushed edge
63 p.o. on label
313 parallel ck
81 radial ck
3 wedge record
1 buckle ? (Trend?)
68 poor print
56 thick
1 dent
3 cracked center,
3 scratches,
56 wrapper,
5 silver specks.
6 stain,